

NOTULAE NATURAE

NUMBER 340

OF

FEBRUARY 28, 1961

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

NOMENCLATURAL STATUS OF THE NEOTROPICAL SUBSPECIES OF THE COLUBRID SNAKE, *THAMNOPHIS SAURITUS*

BY

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ABSTRACT.—The ribbon snake of southern Mexico and Central America, currently known as *Thamnophis sauritus chalceus* (Cope), should henceforth be known as *Thamnophis sauritus rutiloris* (Cope), inasmuch as the name *chalceus* is demonstrated to belong in the synonymy of *Thamnophis sauritus sackeni* (Kennicott) of southeastern United States.

An examination of the nomenclatural history of the ribbon snake, *Thamnophis sauritus* Linnaeus, reveals some confusion concerning the correct trinomen to apply to the subspecies occupying the lowlands of Central America and southern Mexico. Cope (1885) described *Eutaenia* (= *Thamnophis*) *rutiloris* from a specimen (USNM 13906) collected on Cozumel Island, Quintana Roo, Mexico. Smith (1938) later reduced *rutiloris* to a subspecies of *Thamnophis sauritus*. This name was associated with the neotropical ribbon snake until Dunn (1940) re-examined the type specimen of *Prymniodon* (= *Thamnophis*) *chalceus* Cope 1860, supposedly collected in Siam, and declared it to be a *T. sauritus proximus* (no evidence was presented to support this identification) with the low ventral count typical of the neotropical form. Dunn felt that the neotropical population was deserving of taxonomic recognition and that *chalceus* was the earliest name available. Cope (1892), however, had previously placed *chalceus* in the synonymy of *T. sauritus sackeni*, the race occurring in the southeastern United States. At no time did Cope, who described both *chalceus* and *rutiloris*, associate the former name with the neotropical ribbon snake. Nevertheless, with the sole exception of Schmidt (1941), recent workers have followed Dunn in referring to the neotropical race as *T. s. chalceus*.

This One



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I have examined the type of *chalceus* (ANSP 5826) and find that Cope was correct in considering it to be a specimen of *sackeni*. The neotropical ribbon snake ordinarily has from 25 to 30 fewer subcaudal plates than does *sackeni*, but unfortunately the type lacks most of its tail so that identification depends on nonmeristic differences (the ventral count of 152 could apply equally well to either form). The specimen agrees with *sackeni*, and differs from the neotropical snake, in its lack of parietal spots and in possession of a black postocular vitta, a relatively short muzzle, and a bright spot on the lower postoculars. The type of *rutiloris*, on the other hand, agrees with specimens from southern Mexico and Central America in all respects (including the number of subcaudals). Therefore the correct name to apply to snakes of this population is *Thamnophis sauritus rutiloris* (Cope) 1885.

I wish to extend my thanks to Dr. James E. Böhlke and Mr. Edmond V. Malnate of the Academy of Natural Sciences of Philadelphia for making it possible for me to examine the type specimen of *Prymniodon chalceus*, and to Dr. Doris M. Cochran of the U. S. National Museum for the loan of the type of *Eutaenia rutiloris*.

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ISBN 1-60483-340-8



NOTULAE NATURAE

NUMBER 339

OF

DECEMBER 20, 1960

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

THE IDENTITY OF THE NATRICINE SNAKE *TROPIDONTUS BARAMENSIS* SMITH

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Tropidonotus baramensis was described by Malcolm A. Smith in 1921 (Journ. Fed. Malay States Mus., 1921, vol. X, art. VII, pp. 197-199, pl. II) from a single adult male, collected at 3400 feet on Mt. Dulit, Baram district, Borneo. Examination of the type (British Museum 1946.1.13.11) shows that *baramensis* was incorrectly diagnosed as *Tropidonotus* and should be assigned to the genus *Pseudoxenodon*. The obliquely arranged dorsal scales and the form and armament of the hemipenis of *baramensis* are characteristic of *Pseudoxenodon* as the genus is currently understood. An amplified description of the type follows.

Rostral broader than high, narrowly visible from above; internasals small, wider than long, five-sided; prefrontals large, wider than long, twice the size of the internasals; frontal subtriangular, as long as its distance from the tip of the snout, equal in length to the interparietal suture; combined width of the parietals greater than their length, the shields terminating in an acute angle. Supralabials 8 on the left side of the head, 9 on the right (Smith notes 8 only), the 4th-5th and 5th-6th bordering the orbit, the 7th (left) and 8th (right) largest. Infra-labials 11, 6 contacting the anterior chin-shields. Posterior chin-shields much longer than the anterior pair, separated their full length by small scales. Nasals equally divided by the nostril. Loreal slightly higher than long. A single preocular, 3 postoculars. Anterior temporals 2, large; 3 posterior temporals.

Dorsal scales in 19-17-15 rows, the median 13 rows being obliquely disposed. The scales are keeled, the outer two rows smooth; apical scale pits are not evident. Loss of the third scale row above the 82nd ventral causes the reduction from 19 to 17 rows; the 4th scale row is lost immediately following (above the 85th ventral), further reducing the number of scale rows to 15. Ventrals number 134; anal plate divided; subcaudals 46 (Smith counts 47 pairs).

The specimen (in alcohol) is gray dorsally, the back crossed with narrow, irregular black crossbars which appear to be the dark edges of large, obscure, vertebral, ovate spots which are somewhat more clearly defined from just posterior to midbody onto the tail; laterally there is a series of irregular black spots; a narrow, irregular, white stripe posteriorly along the common edge of the outer scale row and the ventrals becoming sharply defined on the tail. Interstitial skin white, the white sometimes extending onto the scale edges. Head slate-colored

This One



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above, the color continued on the nape to a black chevron, the apex forward; sides of head lighter, labials light along the lip edge. Skin and throat immaculate whitish; ventrum light anteriorly, gray color of flanks extending over the outer edges of ventrals; gray area gradually expands over ventrals until entire undersurface posteriorly is mottled gray.

Total length 694 mm.; tail length 129 mm.; tail ratio 0.186.

The hemipenis is long, extending to the 20th caudal (*in situ*) and is forked at the 8th. At its base the organ is strongly furrowed, without spines or enlarged basal hooks. From the furrowed area to the point of forking the organ is covered with small spines. On each lobe, after the division, the spines increase rapidly in size until they are quite long; this condition extends from approximately the median point of the lobe to about one-third the distance to the tip. The distad end of each lobe is calyculate, the calyces armed with spinous edges. The sulus spermaticus divides at a point opposite the 4th subcaudal and extends to the tip of each lobe. The retractor muscle is divided, a slip extending from the tip of each lobe to the level of the 25th subcaudal where the slips join; the unified muscle continues almost to the tip of the tail, attaching to the caudal vertebrae at the 40th subcaudal.

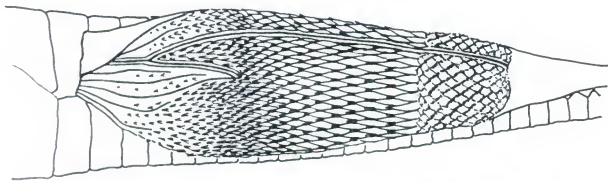


Fig. 1. The hemipenis of the type of *Pseudoxenodon baramensis* ($\times 2$), *in situ*. Only one lobe of the divided organ is shown.

There are $19 + 2$ teeth on each maxilla, the posterior two teeth strongly enlarged and separated by a diastema from the series anterior. The palato-pterygoid series of teeth number $13 + 18$ on the right, $12 + 16$ on the left (the palato-maxillary arches have been removed).



Fig. 2. The right palato-maxillary arch of the type of *Pseudoxenodon baramensis* ($\times 2$).

Pseudoxenodon baramensis appears to be closely related to *P. inornatus* from Java. The light line separating the lateral and ventral color which is present in *inornatus* is restricted in *baramensis* to the tail and posterior portion of the body. Ventrals and subcaudals are somewhat more numerous in *baramensis* (118-121 and 36-41 respectively in *inornatus*). It is suggested that additional specimens of *baramensis* probably will further establish this association and perhaps indicate a subspecific relationship between the two forms.

ISBN 1-60483-339-4



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NOTULAE NATURAE

NUMBER 402

OF

JUNE 16, 1967

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

ERIOCNEMIS MIRABILIS, A NEW SPECIES OF HUMMINGBIRD FROM COLOMBIA

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This very beautiful new species of hummingbird was discovered in western Colombia by Mr. John S. Dunning of Farmington, Connecticut, while on a recent field trip to that country for the purpose of photographing birds.

The bird was captured in a mist net and the skin was prepared by Mr. Kjell von Sneidern, who accompanied Mr. and Mrs. Dunning. Mr. Dunning has most generously presented the specimen to the Academy.

Eriocnemis mirabilis, new species

TYPE: ♂ adult, A.N.S.P. no. 170033, collected at Charguayaco, 7200 ft., western slope of the Western Andes, Cauca, Colombia, by John S. Dunning, April, 1967.

Description: Forehead to mid-crown glittering golden green, edged posteriorly by glittering bluish green. Entire back shining dark green, slightly brighter and tinged with blue on the upper tail-coverts. Throat and sides of neck glittering bluish green gradually shading to shining dark green on the breast and sides of body. Bases of the feathers of the throat white, of the breast dark gray. Belly glittering deep indigo blue, each feather with a median glittering dark reddish violet bar, edged above with glittering brassy gold, these bars showing through here and there. Under tail-coverts highly iridescent, mixed glittering ruby red and brassy gold, turning to green in certain lights.

Tail forked, the feathers evenly graduated, upper surface dark bronzy olive, under surface glistening bright golden olive. Wing-coverts bronzy green, remiges blackish purple, the outermost primary pale cinnamon on basal half of the outer web. Tibial tufts very ample, white tipped pale cinnamon in front, deep cinnamon behind, silkier, less downy, than is usual in the genus.

Measurements of type: wing, flattened, 53; tail, 30.5, depth of fork 12; exposed culmen 16.5 mm.

Range: Known only from the type locality in heavy forest in the sub-tropical zone of the western slope of the Western Andes, about eight miles north of Cerro Munchique, Cauca, Colombia.

This One



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Remarks: This remarkable hummingbird is not closely related to any other species of the genus. The glittering cap is unusual, this feature being shared only with *E. glaucopoides* of Bolivia and Argentina, and the shiny under surface of the tail only with *E. alinae* of Colombia to Peru.

While the type was the only specimen brought back, Mr. Dunning informs me that several others were captured and released. These closely resembled the type but were somewhat duller and were thought by Mr. Dunning and Mr. von Sneider to be females or young males.

It is remarkable to find such a well marked species in such a well worked area as the vicinity of Cerro Munchique, and Mr. Dunning is much to be congratulated on his fine discovery.

ISBN 1-60483-402-1



NOTULAE NATURAE

NUMBER 11

OF

JUNE 17, 1939

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

WULFENITE, RALSTONITE, AND THOMSENOLITE FROM IVIGTUT, GREENLAND

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Among the specimens obtained at Ivigtut, Greenland, in September, 1937, by Mr. Charles R. Toothaker, Third Officer of the "Einvik," was a cavernous mass of cryolite and fluorite, lined with crystals of thomsenolite, with occasional ralstonite, and two small crystals of wulfenite—a mineral not heretofore reported from Greenland.

The thomsenolite (fig. 1) is in tabular crystals, up to 1 mm. in size, often in fan-shaped aggregates. This seems to be the commonest habit, rather than that figured in Dana,¹ although it is there stated that crystals are often cubic in aspect. The forms measured were m (110), c (001), and x ($\bar{3}02$).

The ralstonite occurs as small colorless, limpid octahedra and cubo-octahedra (figs. 3, 4), rarely more than 0.5 mm. in size. The index of refraction was kindly determined by Mr. Louis Moyd, who used the immersion method, and Hg yellow light:

$$n = 1.399 \pm .001$$

Specimens from the Academy's collections gave the same value, and it seems that the figure usually quoted ($n = 1.4267$),² which was determined upon a polished face, using a Totalreflectometer, is in error.

The wulfenite (fig. 2) crystals are grayish-yellow in color, with an adamantine luster, about 1 mm. in length, and perched upon thomsenolite. The forms determined upon the goniometer are: p (111), μ (221), r (340), and e (011). Identification as wulfenite was based upon the crystal angles, ρ angles for p (111) averaged $65^\circ 53'$ (calculated $65^\circ 51'$) and for e (011) $57^\circ 35'$ (calculated $57^\circ 37'$).

¹ Dana's System of Mineralogy, 6 ed., 1897, p. 180.

² Böggild, O. B. Beobachtungen über die Mineralien der Kryolithgruppe. Zeit. f. Kryst., 51: 606, 1913.

This One



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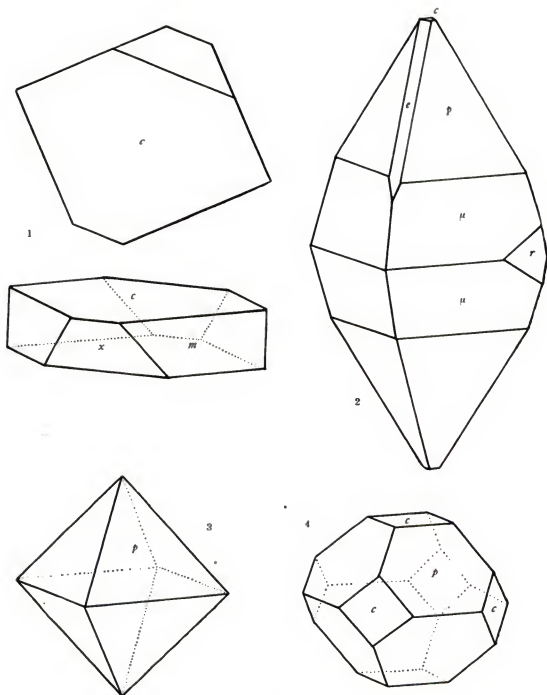


FIG. 1.—Thomsenolite. FIG. 2.—Wulfenite. FIGS. 3, 4.—Ralstonite.

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ISBN 1-60483-011-5



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NOTULAE NATURAE

NUMBER 9

OF

JUNE 13, 1939

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

THE GENUS *PTILOTEUTHIS* GABB

BY JOHN W. H. REHN

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A chance examination of Gabb's type of *Ptiloteuthis foliatus*¹ immediately showed the writer the specimen was an insect wing. When the original description and figure were examined it was quite surprising to find that it had been described as a cephalopod from the Cretaceous formations of California.

As the original description and figure are of no help in placing this interesting form it is necessary to redescribe and to figure more accurately the specimen upon which this name was based.

Apparently *Ptiloteuthis* is related to *Stantoniella cretacea* (Handlirsch),² which is one of the few known Cretaceous blattids, but differs from it by its much larger size and by the presence of the subcostal veins. However, it agrees with *Stantoniella* in its general proportions and in the general arrangement of the radial and post-radial veins.

***Ptiloteuthis foliatus* Gabb**

Fig. 1.

1869. *Ptiloteuthis foliatus* Gabb, Pal. California, II, p. 128, pl. 19, fig. 4.

Type.—Right tegmen. Type in The Academy of Natural Sciences of Philadelphia.

Locality.—Shasta Group, Cottonwood Creek, Shasta County, California.

Wing fragment 79 mm. long, greatest width 25; general form elongate lanceolate, with very numerous veins. Subcosta running obliquely to costal margin, which it attains at approximately the proximal fourth, subcostal area with numerous veins, mostly compound, which run obliquely to costa. Radius, which runs almost straight to the apex of wing, with at least seven primary branches, all

¹ Pal. California, II, p. 128, pl. 19, fig. 4, 1869.

² Originally proposed as *Stantonina cretacea* (Proc. U. S. Nat. Mus., XXIX, p. 655, 1906), but as this name was preoccupied, Handlirsch replaced it with *Stantoniella* (Fossilien Insekten, Leipzig, p. 662, 1907).

This One



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of which appear branched, and apparently with numerous intercalary veins. Behind radius is another principal vein which gives off two compound and an indefinite number of simple branches, all of these apparently having some terminal twigging and possibly there are some intercalary veins in this area; it may be that this major vein represents media or possibly media and cubitus. Posteriorly this vein is followed by one or two single veins, just before the axillary incision, which probably represent the plical veins. Anal furrow very indistinct and scarcely noticeable except at wing margin where it is indicated by the weak axillary incision. Anal area, which is rather long and narrow, two-fifths the wing length, and about three and one-half times as long as broad, with an indefinite number of axillaries.

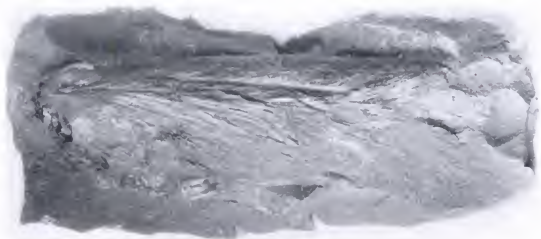


FIG. 1. *Ptiloteuthis foliatus* Gabb. Type. Slightly less than natural size.

The veins of the wing are quite numerous but not particularly distinct, and there does not appear to be any trace of crossveins.

There was, at first, some little doubt as to whether this specimen actually came from the Shasta formations along Cottonwood Creek, but when further study made it apparent that *Ptiloteuthis* was rather closely related to *Stantonella*, from the Judith River formations, there was much less reason to question the locality or formation.

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ISBN 1-60483-009-3



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NOTULAE NATURAE

NUMBER 352

OF

MARCH 28, 1962

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

SUPPLEMENTARY NOTES ON THE RISSOELLIDAE (GASTROPODA)

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This paper, a supplement to Robertson (1961), is published primarily to present a revised synonymy of the genus *Rissoella*, which, it is hoped, will unequivocally establish the validity of the name. References cited in the previous paper are not repeated here.

1. *Rissoella* versus *Jeffreysia*.

Family RISSOELLIDAE M. E. Gray, 1850

Genus **Rissoella** M. E. Gray, 1850

[*Rissoella* J. E. Gray, 1847, p. 159. *Nomen nudum*.]

Rissoella M. E. Gray, 1850 (Feb.–March *vide* Iredale, 1915), 4: 86. Type species (monotypy): *Rissoella glaber* M. E. Gray, 1850 (new name for the species to which Alder misapplied the name *Rissoa glabra* (Brown) in 1844 and named *Rissoa? diaphana* in 1848; see M. E. Gray, *ibid.*, 4: 27, and vol. 2, pl. 125, figs. 3, 3a, 3b).

Jeffreysia Alder in Forbes & Hanley, 1850 (May 1 & June 1 *vide* Fisher & Tomlin, 1935), 3: 151–155 (June 1), pls. J.J., 76 (May 1). Type species (original designation, p. 154): *Jeffreysia diaphana* (Alder, 1848).

Introduction of the name *Rissoella* J. E. Gray (1847) was without description, as follows: “*Rissoella*. *Rissoa*, sp. Brown. *Rissoa? glaber*, Alder.” Previously (Robertson, 1961, pp. 23–24), I regarded this as a valid introduction of the generic name, with “*Rissoa? glaber*, Alder.” [= *Rissoa? diaphana* Alder, 1848] the type species (monotypy).

On reconsideration, I regard *Rissoella* J. E. Gray (1847) as a *nomen nudum*. My reasons are as follows: **A.** There is, strictly speaking, no such name as “*Rissoa? glaber*, Alder.” (Note spelling *glaber*.) J. E. Gray could have intended basing the name *Rissoella* either on *Rissoa? glabra* “(Brown)” Alder, 1844 [= *Rissoa? diaphana* Alder, 1848] or on *Rissoa glabra* (Brown). Discussing the former species in 1844, Alder had pointed out “differences [that] are undoubtedly sufficient to constitute a new genus.” The latter name applies to some unrecognized species in the Pyramidellidae, a family not closely related to the Rissoellidae. **B.** *Rissoella* J. E. Gray (1847) was

This One



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published as a "synonym" (subdivision) of the genus *Odostomia* (Pyramidellidae).

J. E. Gray's intent was clarified when M. E. Gray (his wife) republished the name *Rissoella* in 1850. She named the family Rissoellidae, described it adequately, and published copies of Alder's excellent figures. *Jeffreysia*, Alder's name for the genus, was published at least one month later.

2. *Rissoa albella* Alder.

Rissoa albella Alder (1844) can be considered as having been published in the synonymy of *Rissoa? glabra* "(Brown)" Alder. Fortunately, *R. albella* is therefore not an available prior name for *Rissoella diaphana* (Alder, 1848), the type species of *Rissoella* (see Robertson, 1961, p. 21).

3. *Jeffreysia inflata* "Monterosato."

Previously (Robertson, 1961, p. 23), I erroneously cited this name as having first been published as a *nomen nudum* in 1878. A correct citation follows:

inflata, *Jeffreysia*. "Allery" [i.e., Monterosato MS] Aradas & Benoit (1870, p. 214).

Nomen nudum. "Sicilia." First described by Locard (1892, p. 181). Probably a form of *Rissoella opalina* (Jeffreys).

4. Fossil record of the Rissoellidae.

As stated previously (Robertson, 1961, p. 131), no exclusively fossil species in the Rissoellidae have been reported. Reasons were given to show why *Rissoella* shells are not apt to be fossilized. Further search in the literature in connection with work for the "Treatise on Invertebrate Paleontology" has, however, resulted in the discovery that one Recent European species has been reported as a "fossil" of unspecified age. Marshall (1899, p. 138) recorded "*Jeffreysia*" [= *Rissoella*] *opalina* (Jeffreys) as "fossil in the Belfast deposit (Praeger)!" Praeger (1892, pp. 261, 278) found this species to be "frequent" in post-glacial (i.e., Recent) estuarine clay deposits at four localities in northeast Ireland. Evidently, this was the source of Marshall's information. Thus, there still seem to be no true Tertiary or even Pleistocene records of the Rissoellidae.

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ISBN 1-60483-352-1



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